

REMARKS

Consistent with the oral agreement made on September 24, 2003 between Applicants' representative and Examiner Shay, Applicants hereby acknowledge the election of generic claims 1-5, 8-10, 13, 18-21, 25, 41, 47, 48, 51, 52, 59-61, 66, 67, and 84 in addition to claims 27-33, 69-75, and 86-87, which are directed to the species including a shaped waveguide and pressure control as depicted in Figures 20a-d. While Applicants believe that the originally presented claims are patentable, the above claims have been elected in order to expedite the application toward allowance. Applicants reserve the right to pursue the non-elected claims, such as through continuation practice.

Claims 1-91 are pending in this application. Claims 6, 7, 11, 12, 14-17, 22-24, 26, 34-40, 42-46, 49, 50, 53-58, 62-65, 68, 76-83, 85, and 89-91 have been withdrawn from consideration as being drawn to a non-elected invention. Claims 31, 33, 73, and 75 are rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. Claims 5, 18-20, 27-33, 59-61 and 69-75 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 1-5, 8, 9, 13, 18-21, 25, 27, 28, 30, 32, 41, 47, 48, 51, 59-61, 66, 67, 69, 70, 74 and 84 are rejected under 35 USC § 102(b) as being anticipated by Hollnagel. Claims 1, 28-39 and 70-72 are rejected under 35 USC § 103(a) as being unpatentable over Currey in combination with Hollnagel. Claim 49 is rejected under 35 USC § 103(a) as being unpatentable over Gustafsson in combination with Hollnagel. Claims 1, 4, 10, 47, and 52 are rejected under 35 USC § 103(a) as being unpatentable over Anderson et al ('041) in combination with Hollnagel. Claims 86 and 87 are rejected under 35 USC § 103(a) as being unpatentable over Anderson et al. ('844) in combination with Grove et al.

Claims 1, 27, 47, 59, 70, and 74 have been amended and claims 31, 33, 73, and 75 have been cancelled without prejudice. While Applicants believe that the originally presented claims are patentable over all of the art cited in the Office Action as well as all other references submitted by Applicants, the claims have nonetheless been amended or canceled as follows in order to expedite the application toward allowance. The

amendments and cancellations are therefore made without prejudice or disclaimer, and Applicants reserve the right to pursue the original scope of the claims as provided prior to the cancellation or amendments, such as through continuation practice. Support for the amendments can be found throughout the specification and in the claims as filed. Specifically, support for the phrase “waveguide being of a length selected to enhance uniformity of an optical output from the apparatus” can be found on page 3, lines 16-17. Accordingly, no new matter has been added by the proposed amendments.

Applicants respectfully traverse the Examiner’s rejections and request reconsideration of the application in view of the amendments made above and the remarks that follow.

IDS

In the Office Action, the Examiner notes that while the IDS was recorded, the copies of the references are no longer associated with the case. Applicants resubmit herewith copies of the foreign patents and non-patent references. If copies of the cited US patents and/or applications are needed, the Examiner is urged to contact the Applicants’ attorney.

Rejections under 35 U.S.C. § 112, 1st paragraph

Claims 31, 33, 73, and 75 are rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The Examiner points out that the specification, as originally filed, is silent regarding a mechanism for detecting the depth of blood vessels. While Applicants believe that the mechanism is inherent in the operation of the pressure-controlled applicator, in order to expedite prosecution Applicants have cancelled claims 31, 33, 73, and 75 rendering this rejection moot.

Rejections under 35 U.S.C. § 112, 2nd paragraph

Claims 5, 18-20, 27-33, 59-61 and 69-75 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner states that it is

unclear how claim 5 further limits claim 4. Applicants thank the Examiner for pointing out this duplication. In response, claims 5 has been cancelled.

The Examiner further states that claims 18-20, 27-33, 59-61 and 69-75 are substantially duplicate. Applicants respectfully disagree. Each of the identified claims contains a limitation not found in any of the other claims. For example, each of the claims 18-20 add limitations to the length of waveguide and each of the claims 27-30 and 32 add limitations to the contacting surface of the waveguide. The Examiner is respectfully requested to reconsider and withdraw this rejection or, alternatively, the Examiner is requested to provide a clearer explanation of the rejection.

In addition, the Examiner states that claim 27 positively recites the skin. Claim 27 has been amended to clarify the claimed invention.

Rejections under 35 U.S.C. § 102(b)

Claims 1-5, 8, 9, 13, 18-21, 25, 27, 28, 30, 32, 41, 47, 48, 51, 59-61, 66, 67, 69, 70, 74 and 84 are rejected under 35 USC § 102(b) as being anticipated by Hollnagel. Based on the amendments and the following remarks, Applicants respectfully request reconsideration and withdrawal of the anticipatory rejections.

Applicants' invention relates to an apparatus for performing a medical procedure on a treatment area of a patient's skin. The apparatus includes a lamp, a waveguide adapted to optically contact the patient's skin and a mechanism for directing photons from the lamp through the waveguide to the patient's skin. An important feature of the waveguide of the Applicants' invention is that it is of a length selected to provide *uniform distribution of radiation that passes through the waveguide to the skin* surface, which is desirable for the safety of the epidermis (See Specification page 29, lines 8-11). Applicants' specification also describes various forms of waveguides (See, for example, page 3, lines 27-32 of the Specification).

In contrast, Hollnagel discloses an illuminating unit, or applicator, “which is free from any danger of producing any harmful effects as *a result of the escape of the light along the side* of the instrument.” (See p 2, line 39-42). The Hollnagel instrument contains a source of radiation and a quartz rod for conveying the rays from the source. The rod is covered except at its ends with a coat of a metallic reflective material such as metal silicon, silver, magnalium or other suitable material having a high index of reflection. The “forward end of said rod being uncovered whereby the radiation may be emitted therefrom” (See page 2, lines 60-62).

The Hollnagel reference does not teach or suggest using a waveguide *of a length selected to enhance uniformity of an optical output from the apparatus* to the patient’s skin, which is required by independent claims 1, 47, 59, 66, 67, 69, 70, 74, and 84 (and, hence, dependent claims dependent therefrom). The Hollnagel reference, in contrast, simply teaches that the end of the radiation emitting rod is uncovered whereas the sides of the instrument are coated. Hollnagel does not teach or even suggest that the length of the waveguide can enhance the uniformity of the optical output.

Because Hollnagel does not disclose or teach the recited limitations of the claimed invention, Applicants believe that Hollnagel does not anticipate, or render obvious, the claimed invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection over Hollnagel.

Rejections under 35 U.S.C. § 103(a)

Claims 1, 28-39 and 70-72 are rejected under 35 USC § 103(a) as being unpatentable over Currey in combination with Hollnagel. Applicants respectfully disagree with these rejections. Based on the following remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 28-39 and 70-72.

Currey discloses a device with a vacuum-cup through which radiation may be applied to the portion of the body within the cup. Hollnagel discloses an instrument containing a source of radiation and a quartz rod, which is coated with a metallic reflective material, for conveying the rays from the source. However, neither Currey nor

Hollnagel teach that the *length* of the waveguide can enhance uniformity of an optical output.

Hence, both Currey and Hollnagel fail to meet all of the limitations of the claimed invention, particularly because neither reference discloses a *waveguide of a length selected to enhance uniformity of an optical output from the apparatus* as cited in claims 1, 28-39 and 70-72. Because both Currey and Hollnagel do not disclose or teach all of the limitations of the claimed invention, Applicants believe that the references do not anticipate or render obvious the claimed invention and respectfully request that the Examiner reconsider and withdraw the rejections under Currey and Hollnagel.

Claim 49 is rejected under 35 USC § 103(a) as being unpatentable over Gustafsson in combination with Hollnagel. Claim 49 has been withdrawn rendering this rejection moot.

Claims 1, 4, 10, 47, and 52 are rejected under 35 USC § 103(a) as being unpatentable over Anderson et al. ('041) in combination with Hollnagel. Applicants respectfully disagree with these rejections. Based on the following remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 4, 10, 47, and 52.

Anderson et al. ('041) discloses a laser illuminator including a differential optical radiator and a laser fiber with a diffusively reflective coating disposed within the differential optical radiator. Hollnagel discloses an instrument containing a source of radiation and a quartz rod for conveying the rays from the source. The rod is covered except at its ends with a coat of a metallic reflective material. However, neither Anderson et al. ('041) nor Hollnagel teach that the *length* of the waveguide can enhance uniformity of an optical output.

Both Anderson ('041) and Hollnagel fail to meet all of the limitations of the claimed invention, particularly because the references do not disclose a *waveguide of a length selected to enhance uniformity of an optical output from the apparatus* as cited in claims 1, 4, 10, 47, and 52. Since neither Anderson ('041) nor Hollnagel disclose or

teach all of the limitations of the claimed invention, Applicants believe that the cited references do not anticipate or render obvious the claimed invention and respectfully request that the Examiner reconsider and withdraw the rejections of claims 1, 4, 10, 47, and 52.

Claims 86 and 87 are rejected under 35 U.S.C 103(a) as being unpatentable over Anderson et al. ('844) in combination with Grove et al. Applicants traverse this rejection and respectfully request reconsideration in light of the following arguments.

The Examiner states that:

“It would have been obvious to treat the blood vessels supplying the hair follicle in the method of Anderson et al ('844) since this is required to produce permanent hair removal, as taught by Grove et al thus producing a method such as claimed.”

Applicants disagree with the basis of this rejection. There simply is no motivation for one skilled in the art to modify the method of Anderson's invention for the treatment of hair removal for use in treating blood vessels as described in Applicants' invention. The considerations involved in the damage or destruction of hair follicles on the one hand and the treatment of vascular lesions on the other are quite different.

Anderson discloses an apparatus and a method for the simultaneous removal of a plurality of hairs from a skin region and employs pressure to remove “light-absorbing blood” from the target region to reduce “absorption of the optical field, resulting in more efficient delivery of light to the follicular target regions.” (See Col. 6, lines 60-66). Anderson teaches that the natural pigment (i.e., melanin) of the hair components is the chromophore used in treatment.

In contrast, Applicants teach that “blood in the vessel is generally the chromophore used for treatment” (See page 30, lines 6-7). According to the Applicants' invention, the blood vessel to be treated can be selected by applying pressure such that blood is removed from the blood vessels *above* the vessel to be treated. However, blood must remain *in* the vessel to be treated. This is in direct contract to the teaching of

Anderson in which pressure is applied to remove all blood from the target region so that the radiation can penetrate the follicular target region (i.e. melanin).

Since the Applicants teach that in the treatment of blood vessels it is important that blood is *not* dispelled from the region under treatment, one would not look to the Anderson reference which teaches that it is desirable to dispel blood from the region to which radiation is applied. Applicants' claims 86 and 87 require that blood is substantially removed from the superficial blood vessels "above vessels on which treatment is to be performed." It would not, therefore, be obvious for the skilled person to look to the Anderson reference for direction in treating blood vessels as disclosed by the Applicants since the Applicants use a different method of treatment.

In addition, one would not be motivated to combine the teachings of the hair removal system of the Anderson reference, which uses melanin as the chromophore, with the treatment methods for destroying blood vessels disclosed in Grove. Grove teaches methods for destroying blood vessels using a laser between 700 nm and 1100 nm. Grove's methods of coagulation of blood in deep vessels specifically teach away from targeting melanin since absorption of light by melanin "causes much of the incident light to be absorbed within a few hundred microns of skin surface" (See Grove et al. Col. 3, lines 31-37). Thus, there is no motivation to combine the teachings of the Anderson reference with the teachings of the Grove reference, and even if combined, the cited differences show that Applicants' invention cannot be obtained by the combination.

For all the reasons recited above, the Anderson and Grove references do not disclose or suggest the method of the present invention. Moreover, these references fail to disclose or suggest every element recited by claims 86 and 87. Applicants, therefore, respectfully request that the Examiner withdraw all rejections.

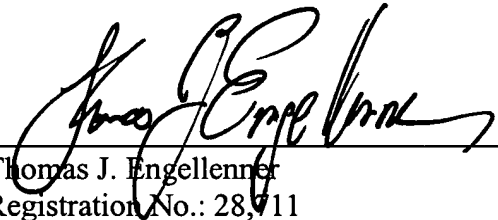
CONCLUSION

In summary, the above-identified patent application has been amended and reconsideration is respectfully requested for all the reasons set forth above. In the event that the amendments and remarks are not deemed to overcome the grounds for rejection, the Examiner is kindly requested to telephone the undersigned representative to discuss any remaining issues.

Respectfully submitted,

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